



## Quest for Internet

This is the first in our weekly Monday series at [emeagwali.com](http://emeagwali.com) called “*Quest for Internet.*” It will provide answers to our most frequently asked questions, since being online in 1987. In this column, we will focus on Philip Emeagwali’s discoveries and inventions, and will answer specific questions, such as, Why was Emeagwali called one of the fathers of the Internet?

How did his seventeen years in eight degree programs at five universities help him solve one of the “20 Grand Challenges” in science and engineering? That barrier to entry—17 years of training—was a barrier to understanding the Grand Challenge problem. In other words, there is no short cut, a straight line from complete ignoramus to solving one of the most difficult problems in computing. There were trials and errors. If it was straightforward, you will not need to learn to read and write to solve problems facing humanity. Because of the high barrier, he ended up solving the problem alone.



Why did he need a network of 65,536 computers that sends and receives emails as an internet to solve it? Why was he given a near exclusive access and control of a dozen supercomputers, which costs 1.32 BILLION dollars each, according to *The Wall Street Journal* (October 5, 2010)?

Most importantly, how did he become a famous scientist? The key to success, Emeagwali believes, is to make discoveries and inventions and then become famous for creating new knowledge *to be taught* to mankind, present and future. The reason [President Bill Clinton](#) extolled Philip Emeagwali for creating the



*knowledge* now used to program the supercomputer is that Clinton understood that the inventor is the first teacher of his invention to humanity.

“I redefined both my ‘supercomputer’ and my ‘superinternet’ (a term that I coined) by stripping each to its steel skeleton: namely, a sixteen-network-deep network of network of two-to-power twenty, or 1,048,576, bi-directional communication wires that sent and received emails to and from its two-to-power sixteen, or 65,536, computers.” – PHILIP EMEAGWALI

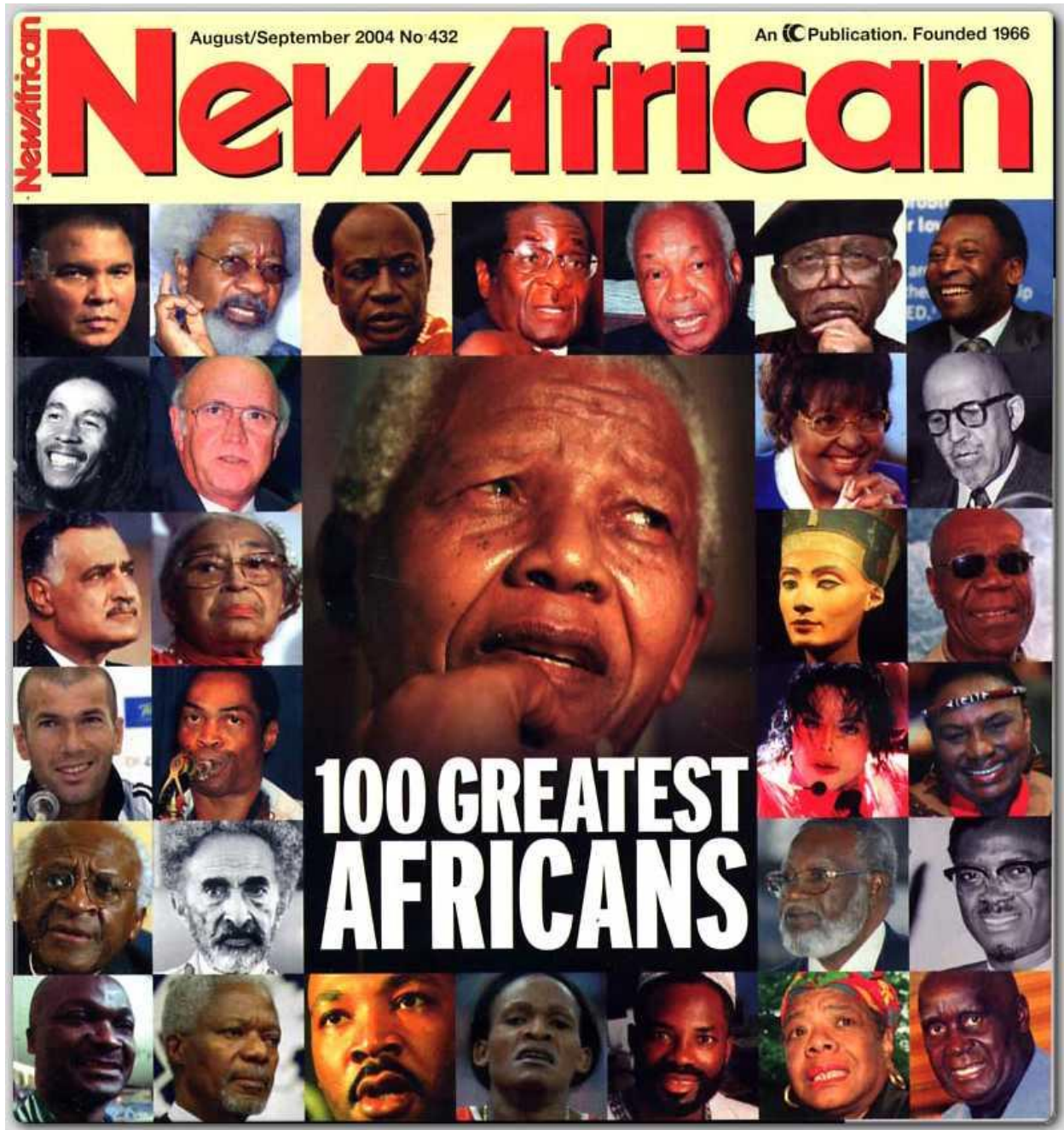
Emeagwali explains:

“Time magazine is a periodical. Your dictionary is a reference. Most scientists publish in periodicals. A few scientists—like Euclid and Einstein—published once in a dictionary. I redefined both my ‘supercomputer’ and my ‘superinternet’ (a term that I coined) by stripping each to its steel skeleton: namely, a sixteen-network-deep network of network of two-to-power twenty, or 1,048,576, bi-directional communication wires that sent and received emails to and from its two-to-power sixteen, or 65,536, computers.”

Our weekly series will put the most emphasis on four tracks: (1) his life’s journey from Africa to America; (2) how his discoveries and inventions helped redefine the *terra incognita* of computer and internet; (3) his unpublished letters and archived papers; and (4) his speech transcripts and videos. The series focus will be on the hero’s heroism, rather than his medals.

Regards,

[emeagwali.com](http://emeagwali.com)



Philip Emeagwali (third from bottom right)

# The Lectures of Philip Emeagwali

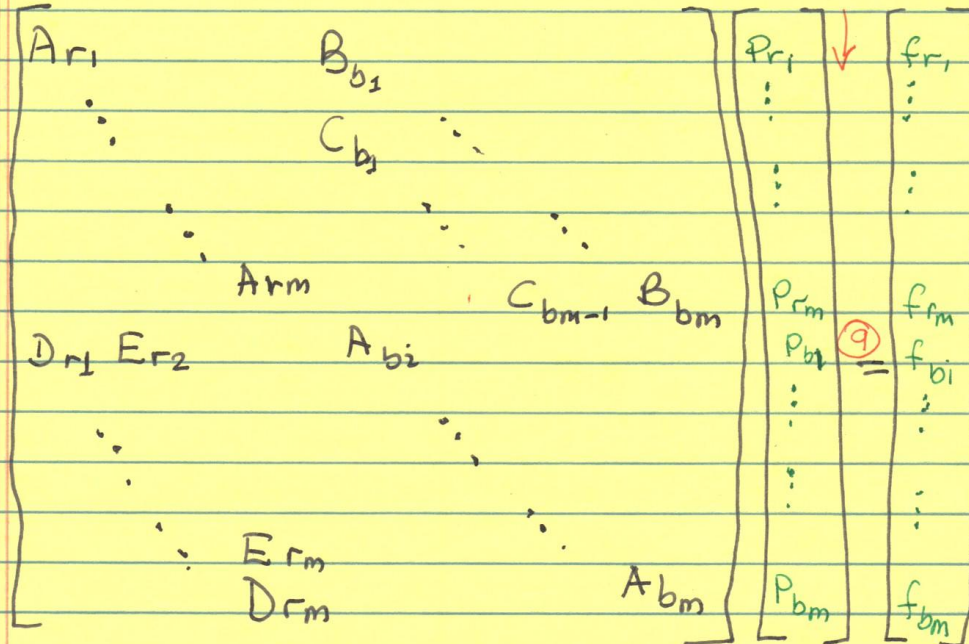
Each biographical article will be transcribed and edited from a lecture delivered by [Philip Emeagwali](#). The unedited video will be posted at [emeagwali.com](#).

As an invited speaker at the world's largest gathering of mathematicians on July 8, 1991, in Washington, D.C,



Philip Emeagwali presented his discoveries and inventions to the field's foremost experts. From 1993 to 1998, Emeagwali represented the world's two premier computer societies, The IEEE Computer Society and the Association for Computing Machinery, as their Distinguished Speaker at Computer Science Departments in the United States.

Reconsider equ. (8) in two dimensions.  
 My line-red ordering becomes Assume # of lines even = 2m



$r_i, b_i \rightarrow$  unknowns  $\rightarrow$  red line  $r_i$ , black line  $b_i$   
 I am outraged that for a century and half, mathematicians that developed what should be the most important equation were, de facto, contemplating their navels and forgetting that mathematical physics should be a living body of knowledge that ensures that mathematics and physics are always congruent to each other.

11-111124

As the headline speaker at a top science festival (on January 30, 2009, near Calcutta, India), he held 7,000 scientists spellbound for 40 minutes, telling them that “the genius is the ordinary person that found the extraordinary in the ordinary.” When he stepped down from the stage, the audience mobbed him like a rock star and dubbed him the “Cicero of Science.”

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# KSHITIJ 2009

450 COLLEGES  
3500 PARTICIPANTS  
45 LACS PRIZE MONEY

ARE YOU READY?

**Categories:** Film Making, ArthroBotix, Forensic Sciences, Satellite Workshop, Indian 1 Sputnik, AutoBotz, Mission Micromouse, Light Painting, Lumen, Mind Reading Machines, Solar Robotics, Aeroshow, Laser Man.

**Notable Figures:** Philip Emeagwali ("Father of Supercomputer"), Chris McKay (NASA Mars Phoenix Mission Director), Prof. Kurt Wuthrich (Nobel Laureate), Prahlad Kakkar (Ad Guru), J. Bristow (Emmy Award Winner), Prof. C. Wickramasinghe (Man behind Panspermia).

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Philip Emeagwali delivering a famous lecture at the University of Alberta, Edmonton, Canada.



First class students at the Indian Institute of Technology (IIT), Kharagpur, which is (the top ranked university in India. On January 30, 2009, Philip Emeagwali addressed the entire institute in an evening lecture that was hailed as “mesmerizing.”


# The People Speak about Emeagwali

## Some Famous, Some Little Known



**Date:** 7/3/2009, 12:21 am, GMT +6

**Name:** darlington oji  
onwukwe <41.211.229.234>

**Location:**  Nigeria

**Number:** 306

That this international citizen of science is a Biafran, is enough for the world to recognise the potentials wasting in Biafra. More Phillip Emeagwalis are locked in the dungeons of the geographical expression called Nigeria by its brutes masquerading as democrats and leaders. Sad enough, these "leaders" do not subscribe to the survival of Biafra.

**Date:** 7/1/2009, 7:20 am, GMT +6

**Name:** DR. JOSEPH ILEN-  
OTUMA <71.106.97.132>

**Location:**  United States


**Number:** 305

We are proud to have people like you in our community.

May the almighty God be your strenght

**Date:** 6/1/2009, 6:37 pm, GMT +6

**Name:** daniel bassey <83.229.0.42>

**Location:**  Nigeria

**Number:** 304

Dear DR. i am so proud to be a Nigerian.you have made me believe that we can achieve our highest goals and we can rise to the peak of our chosen career.indeed the whole of africa is proud of you and i am very, very proud of you.i want to solicit that you should not only end in america or europe. i think that you should not forget to come and establish a foundation that will produce more Philips and more computer wizards like you.infact, im proud to know that you have a break through no matter your skin or your

heritage.i'll like to get updates from your websites straght to my mail.thank you and may god bless and keep you and your family.amen

**Date:** 5/23/2009, 2:48 pm, GMT +6

**Name:** JAMES KINGSLEY  
OKORO <125.60.235.204>

**Location:**  Philippines

**Number:** 303

AM PROUD OF YOU, EMEAGWALI PHILIP. YOU ARE A GIFT FROM NDI IGBO TO THE WORLD. WHEN THE ROLE OF SCIENTIFIC ACHIEVEMENT SHALL BE CALLED, THE IGBO NATION SHALL BE REPRESENTED.

**Date:** 5/22/2009, 3:55 am, GMT +6

**Name:** Amond Uchechi  
Uwadineke <68.54.90.236>

**Location:**  United States

**Number:** 302


You have been an inspiration to me. And most importantly, you are worthy to be emulated by Africans all across the world.

It is good that we share the same Igbo culture as well.

Igbo Kwenu!

**Date:** 3/15/2009, 1:43 am, GMT +6

**Name:** Ijeoma Chukwu <78.138.31.107>


**Location:**  Nigeria

**Number:** 301

Dr. You make me proud to be a Nigeria, most esp. an Igbo.

**Date:** 3/11/2009, 5:53 pm, GMT +6

**Name:** Nat Apir <41.219.229.194>

**Location:**  Nigeria

**Number:** 300

Prof. You are truly amazing, but most importantly you are a pan African. I was however intrigued and somewhat disappointed by the failure of our government to buy a supercomputer costing \$120m for your research work back home.

While I concede that there are no barriers to Technology, but it is like you rightly pointed out in one of your articles those who export it are the rich nations of the world.

What will it take for you to come back and put your knowledge and skills for the advancement of the black man here in Africa?

**Date:** 2/23/2009, 5:33 am, GMT +6

**Name:** Isaac Obi, PhD <173.8.126.237>

**Web:** <http://www.emeagwali.com>

**Location:**  United States


**Number:** 299

Congratulations, Emeagwali.

I liked the notion of the African Silicon Valley.....the Abuja Technology Village. I am curious to know the current progress/status of the Abuja Technology Village.

**Date:** 2/19/2009, 7:41 am, GMT +6

**Name:** Emake Bruce  
UGIOMOH <62.173.42.158>

**Location:**  Nigeria

**Number:** 298

Mazi Calculus, you are blessing to your generation and a great pride to Africa and the world. You believed in your convictions and you were convicted for your belief(s). Nevertheless, sheer grit and rugged determination, in spite of the opprobrium that greeted your ground breaking

reasoning. Your determination to show the entire world that you were not jiving was inspiring and heart warming. Please apply the same wisdom you adopted in the remote programming of them processors to solve the 3.1 billion problems bedevilling Africa. Well done.

**Date:** 2/13/2009, 9:15 pm, GMT +6

**Name:** Stephanie <96.4.63.20>


**Location:**  United States

**Number:** 297

I am so proud to do a presentation on Mr. Emeagwali

**Date:** 1/29/2009, 1:07 am, GMT +6

**Name:** Francisco Aureliano Rocha Witt <189.74.251.24>

**Location:**  Brazil

**Number:** 296

Congratulations!

**Date:** 11/27/2008, 12:57 am, GMT +6

**Name:** Steve Brown <74.202.77.251>

**Location:**  United States


**Number:** 295

Just wanted to say I thoroughly enjoyed the Out of Africa section on this site. It is very interesting to read about the experiences of a country boy from Nigeria making his way to college in the U.S. – quite an unprecedented ordeal it seems. I am glad to read of your successful adjustments, especially during such a difficult decade as the 1970s. I too was in school in Oregon in the 1970s, which is what led me to that section on this site.

**Date:** 11/12/2008, 7:44 am, GMT +6

**Name:** lettie a davis pen  
Euroclydon <216.68.66.132>

**Web:** <http://myvemma.com/lettiedavis>

**Location:**  United States

**Number:** 294

Hey you guys. Have you ever heard of a word wall and "The word for today"? Well...put this guy on Euroclydon's

Person for the day. In advance: Thank you for reading. Thank you for completing my survey. Thank you for ordering Vemma product from me. To your health, wealth and prosperity peoples.

Philip Emegawali: Who is he?

<http://www.emeagwali.com/interviews/capstone...>

What did you invent? / What stages of inventing did you go through when you were working on your invention?

/ Were you working by yourself or with a team? /

Why do you like inventing? / What makes you a good inventor?

/ How did you get your idea for the invention?

Philip's web site:

<http://www.emeagwali.com/index.html>

Henderson, Susan. (). AFRICAN AMERICAN INVENTORS. Emegawali.com.

Retrieved by Lettie A. Davis pen Euroclydon on 11/11/2008 from:

<http://www.emeagwali.com/interviews/Capstone...>

Annotation:

Mr. Emeagwali has examined the phenomena of two styles of study-ers, how they study and the features of those modes of study and transferred that knowledge to how he should study a phenom found in his laboratory of the mind...otherwise a battlefield without the tools he found in observing these two styles. Susan the interviewer asks Mr. Phillip: How did you get your idea for the invention? In reading one finds comments on the two styles: Convergent & divergent thinking. In reading the article found at the referenced site one may identify the phenom found as: methods and procedures. Because the industry could not believe and or understand what Mr. Phillip was 'saying' their find in Emeagwali resulted in the creation of a new phenom on the horizon of computer technology "SCALABILITY". "Today scalability is cool and every vendor promises that their system is scalable."

Emegawali: The inventor of. Euroclydon.

**Date:** 11/12/2008, 7:50 am, GMT +6

**Name:** lettie a davis pen  
Euroclydon <216.68.66.132>

**Web:** <http://myvemma.com/lettiedavis>


**Location:**  United States

**Number:** 293

Correction: because of unbelief we can now identify the invention of SCALABILITY and trace its roots back to a Mr. Phillip Emeagwali. Euroclydon (lettie).


**Date:** 11/24/2008, 6:40 pm, GMT +6

**Name:** Emeka Achebe <208.78.63.167>

**Location:**  Nigeria

**Number:** 292

am so proud of this great son of  
ONITSHA, NIGERIA AND AFRICA

**Date:** 11/20/2008, 4:45 pm, GMT +6  
**Name:** BAWA .A. PIUS <80.255.63.62>  
**Location:**  Nigeria  
**Number:** 291

its so inspiring to know that this great epitome of knowledge is from my country Nigeria, and its a pity that most Nigerians don't know this man. what an irony....

**Date:** 11/8/2008, 1:45 pm, GMT +6  
**Name:** President Chuck n Vice  
President Dale <99.188.212.123>  
**Web:** <http://www.shonewo.com>  
**Number:** 290

In Reply to: What's Wrong With Posting  
posted by Cheyenne on October 11, 2002 at  
13:44:41:

: Dear Dr. Philip & Dr. Dale Emeagwali,

: I am a man of mixed blood Native American. I believe the Earth cannot heal until the indigenous peoples in all lands regain greater dominion over their respective original homelands. We must make 3.1 billion good decisions per second to harmonize our impact with Nature. Calculation of the global weather with your massively parallel 12 dimensional genius inspires imagination to shift this effort from passive observation to active preservation with equal gusto. Reading your wonderful site helps restore my faith that many young people will soon unite their efforts to restore full power to the natural health of the Perfect Blue Earth. Worldwide Efforts to reunite the natural resilience of the people with Nature's Threshold must gain modern support of technology. Can you find a way to apply your connection technology to help honeycombs everywhere keep on buzzing with Nature's sweetness for millenniums to come? The power resident within the women of the earth remains essentially untapped as if tightly held in great reservations a theid apart awaiting the pull of the Moon... ...For this time of unprecedented need a new strata... a

uncrossed threshold of natural energy remains pooled beneath observation awaiting opportunity to arise as One! Mother Nature Herself personified with human intelligence is this force embodied within those we love as our own. It is my prayer through dreams that the men of the Earth will find the wisdom to release this "Jeannie" from the bottle... ..her home for millions is our own!

: My dreams are real. They are lived and scribed with all sincere accuracy possible to allow by the new "creation buffer" method. Allow to share with your stature of high hope readers. There is a Nubian series of dreams that especially needs to be interpreted by many. A gift from one indigenous side of the world to the other. Patience at first, as dreams  
: reside at the cutting edge of our understanding.

: Of importance to new readers is a needed word missing in English and central to this work; the term "Sho" is coined for womankind the complementary term of endearment to "Bro".


: The in-sight was...

<http://www.shonew.com> until I lost my amateur {just for love} "sho new dot com"

without professional help...  
: The out-site now is  
<http://www.shonewo.com> the Nubian  
dreams are scribed on URL  
<http://www.shonewo.com/high-desert-wind.htm>

**Date:** 10/27/2008, 9:50 pm, GMT +6

**Name:** okoro franciss  
akunnia <41.204.224.41>


**Location:**  Nigeria

**Number:** 289

my greatest programmer, you have indeed  
made the world as a whole proud of you.  
you seem to be the versatile genius of our  
time.... you are a very rare breed.  
you have made the ibo's proud, also  
nigerians as well. but i wonder how proud  
MOTHER AFRICA shall be.....  
JISIE IKE N'AGBA MBO

**Date:** 10/9/2008, 6:31 pm, GMT +6

**Name:** Bright Mills <193.166.132.25>

**Location:**  Finland


**Number:** 288

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I am very proud of you. You have made us proud and have contributed alot to mankind.

**Date:** 10/8/2008, 8:49 pm, GMT +6

**Name:** adeakinleye <204.14.45.146>

**Location:**  Nigeria

**Number:** 287

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We are literally proud of you,keep the flag up.

**Date:** 10/2/2008, 6:27 am, GMT +6

**Name:** Julu Garley <24.209.252.170>

**Web:** <http://www.licocin.com>

**Location:**  United States

**Number:** 286

The entire world is proud of you especially we African Americans who mostly descended from Africa. It's time that we start reversing the brain drain and lend our inventions to better mother African. Good job Phillip and may God give you long life.

**Date:** 9/26/2008, 6:29 pm, GMT +6

**Name:** Joy Ogodu <196.29.218.44>

**Web:** <http://www.jmglimited.com>


**Number:** 285

Mr. Emeagwali is a man of inspiration and a hope to people of all color. Prof. Phillip Emeagwali's achievements in spite of his adversities should be heralded throughout all nations. Am happy to know his existence. and thanks to his beliefs i was able to discover him , also wish to be a true living testament to what he says. Simply

knowledge is here for the taking the choice is our own. This time we must not allow ourselves to be overshadowed by our hunger for today. We must instead plan for our future. The future of mankind. Prof. Philip Emeagwali You are a great MAN indeed. More grace to your ables

**Date:** 9/25/2008, 10:34 pm, GMT +6

**Name:** Utojiuba  
IZuchukwu <41.219.234.173>

**Location:**  Nigeria

**Number:** 284

Goodday Sir, I want to join your visitors book, what is the process?

**Date:** 9/25/2008, 3:10 am, GMT +6

**Name:** Prince Pieray Awele  
Odor <193.219.244.3>

**Number:** 283


I do not agree with the view expressed by Prof. Emeagwali on Africa's way out of "poverty" because Africa is "poor" and not poor, and poverty is not solved through unrealistic theories.

Prince Pieray Awele Oor

**Date:** 9/23/2008, 1:40 pm, GMT +6

**Name:** Josephat Sanda <196.43.83.249>

**Web:** <http://www.out.ac.tz>

**Location:**  Tanzania


**Number:** 282

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How are you Philip

**Date:** 8/2/2008, 6:05 pm, GMT +6

**Name:** Jenni Lynam <86.47.164.9>


**Location:**  Ireland

**Number:** 281

Good day. I am not African, pure Irish. I'm looking for more info on Biafra. Please mail me links at [jenni.lynam@gmail.com](mailto:jenni.lynam@gmail.com)  
Thankyou

**Date:** 8/2/2008, 4:27 pm, GMT +6

**Name:** Olurotimi  
Adeola <41.205.183.163>

**Location:**  Nigeria


**Number:** 280

Even though i will like to acknowledge you as a true son of Nigeria. I am not please with your strong attachment to the past. You seems to have an unforgiven memory of the civil war. Please neither the late sage Awo, his Yoruba tribe or the Hausas that you errorously try to portray as those who plotted evil against Igbos are guilty of the crimes you are trying to ascribe to them on your site. The Nigerian Civil war was an unnecessary ill, everyone suffered

the consequences of that war. Beside do not forget the igbos attack yoruba land to Ore in present day Ondo state during the start of the war. Lets forgive past and move forward p-l-e-a-s-e.

**Date:** 9/20/2008, 5:52 pm, GMT +6

**Name:** onyeka <88.202.124.6>

**Location:**  Nigeria

**Number:** 279

You've amazed me, the way you did your supercomputer, its good to know that someone like is a role model in face of people like us and, truly you have inspired me in a lot of ways. But one important suggestion from to you is to make sure you have your foundation here in Nigeria, at least to encourage our young generation, thank you, God bless u you family

**Date:** 9/13/2008, 1:03 am, GMT +6


**Name:** Ekeze Michael  
C. <41.205.177.246>

**Number:** 278

I love You

**Date:** 9/9/2008, 9:40 pm, GMT +6

**Name:** samson olorunda <217.20.250.47>

**Location:**  Nigeria


**Number:** 277

you are worthy of emulation. so far yet  
very near your roots through your works

**Date:** 9/4/2008, 8:59 am, GMT +6

**Name:** Daniel  
Hakizimana <210.74.227.118>

**Web:** <http://daniel.rugamba.com>

**Location:**  Burundi

**Number:** 276

Hello great man,

We are very proud to have you man.  
People like you and Obama are changing  
Blacks' history. I grew up in Burundi  
learning the achievements of Whites and  
all those lies such as Euclide is Greek and  
all other useless thing like the birthdays of  
French kings. You guess from where? From  
a Black teacher and a french made book.  
But I had to.


Thanks to God now I have a computer and  
connection, I can learn the truth of human  
history.

Good luck from a Brother in Shanghai,  
China.

Daniel

**Date:** 8/23/2008, 9:45 pm, GMT +6

**Name:** gweje hulobu <208.74.114.133>

**Location:**  Nigeria


**Number:** 275

Good day sir, indeed you are a genius per excellent. Nigeria as a country and Africa as a continent is pround to have sombody great like. Sir how can i have contact with you cos i want to be known like can you help me?

**Date:** 8/20/2008, 3:36 pm, GMT +6

**Name:** Ola Oke <82.45.214.165>

**Web:** <http://www.fujimitsu.com>

**Location:**  United Kingdom

**Number:** 274


Your messages are truly thought provoking.

Your life story is both motivating and very inspiring

If only Africa has the will to attract her invaluable human resources...

**Date:** 8/17/2008, 7:03 am, GMT +6

**Name:** Frank.Ezeokeke <96.231.47.178>

**Location:**  Nigeria

**Number:** 273


I write in response to the irresponsible insinuations of someone who calls himself Abbey Ige who wrote in from Nevada. Mr Ige claims to have an objective assessment of what he considers to be the unfair treatment the Late Gen Philip Effiong received from the Igbos. This according to him, started from Prof Emeagwali's website which the Igbos ('of all people') are using as a platform for 'insulting Gen Efiong who saved them'. One thing is immediately evident in that write up: Mr Ige was born an Igbophobic. He has an axe to grind with Igbos and he alone can explain what the matter is. But I have one message for Mr Ige (if his burning hatred will let him listen). The Igbos were created by God just like all other tribal groups in Nigeria. It is God's intention that the Igbo race will

remain. No amount of hatred by the likes of Ige will exterminate the Igbos. Mr Ige must learn to accept that the Igbos are a part of Nigeria. If Nigeria was made bad by Mr A or Chief B or General C, it is not because he/she is Igbo or Yoruba or Hausa or Ijaw etc. Decent people do not hold tribes responsible for actions carried out by persons. I'm sure this is too high an ideal for the likes of Mr Ige but the truth must be told. Dr Chris Ngige whom Mr Ige maligned is one of the best governors that Nigeria ever had and Anambra State indigenes have never failed to acknowledge that fact. I hope and pray that the real problem is not that Abbey Ige is jealous of Prof Emeagwali's achievements. If that is his aggro, then I am very sorry for him. Meanwhile, Prof fire on. The Good Lord is on your side. He has chosen you for countless graces and no one can change it, no matter his tribe or inclinations. Jisike!

**Date:** 8/11/2008, 9:42 pm, GMT +6

**Name:** Kobah koate

Kobah <195.166.237.254>

Location:  Nigeria

Number: 272

it's really good knowing that there is an  
outstanding african who is already taking  
te LEAD.

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